

ABSTRACT

The invention provides a system for polishing one or more layers of a multi-layer substrate that includes a first metal layer and a second layer comprising (i) a liquid carrier, (ii) at least one oxidizing agent, (iii) at least one polishing additive that increases the rate at which the system polishes at least one layer of the substrate, (iv) at least one stopping compound with a polishing selectivity of the first metal layer:second layer of at least about 30:1, wherein the stopping compound is a cationically charged nitrogen containing compound selected from compounds comprising amines, imines, amides, imides, and mixtures thereof, and (v) a polishing pad and/or an abrasive. The invention also provides a method of polishing a substrate comprising contacting a surface of a substrate with the system and polishing at least a portion of the substrate therewith. Moreover, the invention provides a method for polishing one or more layers of a multi-layer substrate that includes a first metal layer and a second layer comprising (a) contacting the first metal layer with the system, and (b) polishing the first metal layer with the system until at least a portion of the first metal layer is removed from the substrate. Moreover, the present invention provides a composition for polishing one or more layers of a multi-layer substrate that includes a first metal layer and a second layer comprising (i) liquid carrier, (ii) at least one oxidizing agent, (iii) at least one polishing additive that increases the rate at which the system polishes at least one layer of the substrate, (iv) at least one stopping compound with a polishing selectivity of the first metal layer:second layer of at least about 30:1, wherein the stopping compound is a cationically charged nitrogen containing compound selected from compounds comprising amines, imines, amides, imides, and mixtures thereof, to be used with (v) a polishing pad and/or an abrasive.